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Biotechnology Notes

Volume 4 • Number 8

U.S. Department of Agriculture

September 1991

Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

BIOTECHNOLOGY AND FORESTRY: BREAKING NEW GROUND

Even though they came from 16 countries, spoke many languages and worked in numerous disciplines and subdisciplines, all had one thing in common: They were applying the tools of biotechnology to forestry research. The occasion was an international conference entitled "Applications of Biotechnology to Tree Culture, Protection, and Utilization" sponsored by the Forest Service's Northeastern Forest Experiment Station, August 5-8, in Columbus, Ohio. Tree growth, tree protection, and tree utilization were the main areas of discussion.

The keynote address was presented by Ellis Cowling, University Professor-at-Large at North Carolina State University. Cowling praised two recent reports of the National Research Council which call for an expansion of biotechnology research in forestry and an increase in funding.

Lois Miller of the University of Georgia described her work deleting an ecdysteroid transferase gene from an insect virus. She said insects infected by the virus, such as the cabbage looper, die earlier than those infected with the wild type virus containing the gene.

Roberta Farrell of Repligen Sandoz Research Corporation described a process that uses a fungus to pretreat wood chips before they are processed for paper and pulp production. The fungus helps to control pitch and resin acid problems and offers a biological alternative to the use of chemicals. Copies of all the research papers presented at the conference are available by calling Rhonda Cobourn at 614-369-4476.

SPRECHEN SIE DEUTSCH?

If not, don't worry: English will be the official language spoken at the upcoming BIOTECHNICA Hannover '91 International Congress and

Exhibition for Biotechnology, held in Hannover, Germany, October 22-24. This year one of the keynote speakers will be Harry Mussman, Deputy Assistant Secretary, Science and Education, who will discuss USDA's research, regulatory, and educational activities in agricultural biotechnology. USDA has been invited to be an exhibitor at the USA Pavilion, and the Office of Agricultural Biotechnology (OAB) will coordinate this effort. The conference draws upwards of 8,000 international visitors and 450 exhibitors from 21 countries.

VETERINARY BIOLOGICS: BETTER PRODUCTS THROUGH BIOTECHNOLOGY

Plants, microbes, and animals aren't the only beneficiaries of biotechnology: new and better veterinary biological products, such as diagnostic test kits, vaccines, and toxins, are also being developed using monoclonal antibody technology and recombinant DNA techniques. The result is biologicals that give faster diagnoses, are highly specific, and produce very accurate results.

All veterinary biological products are regulated under the Virus-Serum-Toxin Act by USDA's Animal and Plant Health Inspection Service (APHIS), Biotechnology, Biologics, and Environmental Protection Division, to be sure they are safe, pure, potent, and efficacious. More than 45 have been licensed by APHIS and are being used today by veterinary practitioners around the world.

Because the technology for producing these products is constantly evolving, as well as the Federal regulations which are based on the technology, APHIS gets together each year in Ames, Iowa with the producers, users, and other interested persons to share information and discuss any concerns. At this year's national public meeting, held August 15-16, the topics of most interest to the attendees included international harmonization initiatives, in-vitro potency testing, post-licensing monitoring of biological products, a repropose rule on autogenous biologics, and an update on products produced through biotechnology.

More than 200 people attended the meeting with participants agreeing that such meetings are very worthwhile and should continue. For more information about APHIS's veterinary biologics program, please call its Deputy Director, David Espeseth, at 301-436-8245.

PROBE: ALL ABOUT PLANT GENOME MAPPING

The National Agricultural Library's Plant Genome Information Center recently published the first issue of a well written, attractive quarterly publication entitled *Probe*. It includes a wide variety of articles related to plant genome mapping as well as a section on

and may be ordered by sending a four-line name and address to Plant Genome Data and Information Center, USDA-NAL, 10301 Baltimore Blvd., Beltsville, MD 20705-2351, or call 301-344-3875. The FAX number is 301-344-6098.

NEW VIDEOTAPE AVAILABLE

The North Carolina Biotechnology Center and CIBA-Geigy Corp. have produced a new videotape on genetically modified tobacco plants entitled *Biotechnology: Sowing the Seeds for Better Agriculture*. It introduces the lay audience to the science and applications of ag biotechnology using CIBA-Geigy's tobacco field test as a case study. The video is 15 minutes long and copies are free to North Carolina ag extension service offices as well as North Carolina teachers. If you don't fall into either of these categories, you may either borrow the tape at no charge or purchase it for \$20. For more details please call Corinthia Scurlock at 919-541-9366.

FISHING FOR ANSWERS

Any listing of animal diseases should also include those pathogens that infect fish. There are many different diseases that can affect a wide variety of species under the right circumstances. But those of trout and salmon are of special interest to scientists because of past disease outbreaks.

In an effort to share ideas and exchange technical information about applying the techniques of biotechnology to aquaculture diseases, John Fryer and Jo-Ann Leong from Oregon State University recently visited leading scientists from BioResearch Ireland.

The research centers in Ireland have an active biotechnology program in aquaculture and have been successful in developing vaccines for salmon and trout, developing DNA probes, and studying proliferative kidney disease in rainbow trout. It is anticipated that this initial meeting will lead to a workshop next year in Ireland composed of U.S. and Irish scientists who share common research interests in aquaculture biotechnology.

NEWS AROUND THE NATION (AND THE WORLD)

BYE BYE BANGS

Experiments with a genetically modified vaccine for the cattle disease brucellosis (also known as Bang's) will begin this month at Texas A&M University, College Station, Texas. Brucellosis is a

contagious disease which causes cows to abort their fetuses and can cause undulant fever in humans. More than seven hundred herds in 20 states have the disease. The Federal government spends about \$60 million a year in eradication efforts.

Researchers have developed a vaccine that can be easily differentiated from the current Strain 19 vaccine, for which it is difficult to distinguish between cows naturally infected with the disease and those with elevated antibody counts due to vaccination with Strain 19. Twenty-five cows will be inoculated with the attenuated (weakened) *Brucella abortus* microorganism, the strain of bacteria which causes brucellosis. Another 25 cows will be given Strain 19 as positive controls, and a third group will be uninoculated negative controls.

The project has been reviewed and approved by USDA's Agricultural Biotechnology Research Advisory Committee, APHIS, and the Texas Animal Health Commission. This phase of the experiment will conclude after one year.

SEE YOU IN SAN DIEGO IN '92

The Sixth International Conference of the Association of Biotechnology Companies will be held in San Diego, CA, May 18-21, 1992. Sessions will include financing and global partnering strategies, new technologies, and Federal regulatory issues. For more details, please call Richard Okiuye at 202-234-3330.

ABC OPENS EUROPEAN OFFICE

The Association of Biotechnology Companies (ABC), an international trade association for 260 private biotechnology companies, research centers, and other organizations, recently opened its first European chapter and information office. The locale is Hannover, Germany. Among its other activities, the office will facilitate communications between North American, European, and Scandinavian members of the ABC. To learn more about the Hannover office, call Jeane Van Lear at ABC at 202-234-3330. The FAX number is 202-234-3565.

A FOOT IN THE DOOR

Texas A&M University is helping minority high school students learn what research is really like through two outreach programs. Each summer almost 70 high school students are recruited to work in laboratories and get paid for it. Students may either enroll in the Minority High School Science Research Apprentice Program, which focuses on the life sciences, or in the Kiki de la Garza Minority Apprenticeship program, which enables the students to work in

experiment station laboratories around the state. Supervisors serve as mentors and recruiters for the University. For more information about the program, call Steve Hill at 409-845-6717.

CALGENE SEEKS FDA ADVISORY OPINION

Calgene of Davis, CA has asked the Food and Drug Administration (FDA) to issue an Advisory Opinion confirming the status of its genetically engineered tomato as food. Called FLAVR SAVR™, the tomato has an antisense gene that delays softening for an extended period of time, thus increasing the shelf life of the fruit. Also, Calgene says the tomatoes taste better because they are picked when they are vine-ripe instead of green. Four years of field testing preceded the FDA request. Calgene has an exclusive license to use the antisense gene for fresh market tomatoes in North America, while Campbell owns the right to use the gene in processing tomatoes. For more details, call Daniel Wagster at Calgene at 916-753-6313.

OPENING THE WINDOW OF OPPORTUNITY

The North Carolina Biotechnology Center has awarded 22 grants totaling \$704,388 for biotechnology education and training in that state. The grants are the first made through the Center's new Educational Enhancement Grants program, which supports biotechnology education from kindergarten to the university level. The grants can be used for curriculum design and first-year implementation; course design; activities that strengthen the institution's resources, courses, or programs in education and training; development of instructional materials; purchase of equipment; faculty education and training; and student recruitment. To learn more, please call Steve Burke at 919-541-9366.

NEW PUBLICATIONS

■ *Biotechnology in Agriculture* is the title of a new book series edited by Gabrielle Persley. Published by CAB International. To order call 800-528-4841 or send FAX to 602-621-3816.

■ *Agricultural Biotechnology: Issues and Choices*. Prepared by the Land-Grant Colleges Committee on Biotechnology. The book is \$10 and the leaflet series is \$5. To order write to Paula Dillard, Agricultural Communications Service, Media Distribution Center, 301 South 2nd Street, Lafayette, Ind. 47905-1092.

■ *Commercializing Biotechnology in the Global Economy*. Proceedings of a symposium held last April in Austin, Texas. Book

published by the IC² Institute of the University of Texas at Austin. \$30. Copies may be obtained from ABC by calling 202-234-3330. The FAX number is 202-234-3565.

■ "Guidance for State Governments on Oversight of Biotechnology." This guide is based on a workshop held in Sacramento, CA, July 12-13, 1990 that was sponsored by the University of California and the New Jersey Department of Agriculture. \$3.75. Call 213-206-6814.

■ *Forestry Research: A Mandate for Change.* Prepared by the National Research Council and published by the National Academy Press. 1990. \$14.95. To place an order call 1-800-624-6242.

■ "New Life for Industry" is a report about biotechnology in Great Britain. For ordering information write to NEDO Books, National Economic Development Office, Millbank Tower, Millbank, London SW1P 4QX.

■ USDA's Minutes of the February 20-21, 1991 meeting of the Agricultural Biotechnology Research Advisory Committee are now off press. To receive a copy, call the OAB at 703-2135-4419, or FAX your request to 703-235-4429.

UPCOMING MEETINGS

Sept. 10: Federal Technology Transfer is the topic of ABC's fourth "Biotech Tuesday" program. Washington, DC. Panelists will represent the Food and Drug Administration, the National Institutes of Health, the Department of Energy, and USDA. To make a reservation, call ABC at 202-234-3330.

Sept. 16: The Third Annual Biotechnology Conference. Sponsored by Public Voice for Food and Health Policy. Call Carol Marek for more details at 202-659-5930.

Sept. 25-27: The Fifth Forum for Applied Biotechnology. Gent, Belgium. For details call 00-32-050-35-81-31 or FAX inquiry to 00-32-050-36-31-86.

Oct. 9-10: Workshop to Identify and Examine Issues Associated with Assessing the Risks Associated with Large-Scale Environmental Applications of Engineered Microbes for Agricultural or Biotreatment Purposes. Sponsored by the Maryland Biotechnology Institute. Call 301-455-3763 for registration information. The FAX number is 301-455-1077.

Oct. 13-16: International Marine Biotechnology Conference. Baltimore, MD. Call 703-941-5373 or 415-524-2460.

Oct. 16-18: European Biotech Partnering Event. The Hague, The Netherlands. Call 31-0-70-3286666 or FAX inquiry to 31-0-7-3242075.

Oct. 22-24: 7th International Congress and Exhibition for Biotechnology. Sponsored by BIOTECHNICA Hannover. Hannover, Germany. For details call Jeff Gwaltney, U.S. Department of Commerce, at 202-377-3090.

Oct. 21-23: Fourth International Symposium on Biotechnology and Plant Protection. University of Maryland, College Park, MD. Jointly sponsored by the University of Maryland, USDA, and the Monsanto Agricultural Company. The focus will be bacterial pathogenesis and disease resistance of plants. Attendance is limited to the first 200 people who register. For further information, please call either 301-405-1582 or 301-344-3338.

Oct. 30-31: Meeting of USDA's Agricultural Biotechnology Research Advisory Committee's Working Group on Classification and Confinement. Washington, DC. For details, please call Daniel Jones, OAB Deputy Director, at 703-235-4419.

Nov. 6-9: A Symposium on Minority Participation in Forestry and Forestry-Related Sciences: A Need, A Goal, A Commitment. Huntsville, Ala. Sponsored by USDA's Forest Service, CSRS, Extension Service, and the Alabama A&M and Tuskegee Universities. Call Jim Reaves at 205-851-5410. The FAX number is 205-852-4061.

Nov. 7-8: International Conference on Biotechnology, Biological Frontiers and Biochemistry. New Dehli, India. For details please write to V. M. Bhatnagar, Alena Chemicals of Canada, P.O. Box 1779, Cornwall, Ontario K6H 5V7, Canada.

Nov. 20-22: "Bioinformatics in the 90's." Maastricht, The Netherlands. This conference focuses on the use of computer and information technology in biology. For more information write to Bioinformatics Secretariat, Mrs. G. v.d. Linden, Bernhardstraat 33, 7491 EA Delden, The Netherlands; or call 054-07-63716.

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Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Suggestions for items to include in future issues are always appreciated and may be sent to USDA/OAB, Room 1001, Rosslyn Plaza East, 14th and Independence Ave., S.W., Washington, DC 20250-2200; or call the OAB at 703-235-4419. The OAB FAX number is 703-235-4429.

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